HABITAT TECHNOLOGIES

BIOLOGICAL EVALUATION, ESSENTIAL FISH HABITAT ASSESSMENT AND FLOODPLAIN HABITAT IMPACT ASSESSMENT

EAST TOWN CROSSING RESIDENTIAL COMMUNITY

PARCELS 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066

CITY OF PUYALLUP #P-21-0034

2902 East Pioneer

City of Puyallup, Pierce County, Washington

Undertaken in Accordance with the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act as amended by the Sustainable Fisheries Act of 1996, and the City of Puyallup Flood Hazard Area Regulations adopted within City of Puyallup Chapter 21.06

This document incorporates comments provided by City of Puyallup review.

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A VETERAN OWNED SMALL BUSINESS COOPERATIVE

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1.0 - INTRODUCTION

This document details the culmination of activities and onsite evaluations undertaken to complete a *BIOLOGICAL EVALUATION, ESSENTIAL FISH HABITAT ASSESSMENT, AND FLOODPLAIN HABITAT IMPACT ASSESSMENT* associated with the planning and future proposed development actions for the proposed **East Town Crossing Multi-Family Residential Community** project site (City of Puyallup #P-21-0034). The project site consisted of seven (7) existing parcels of record (Parcels 0420351026, 0420351029, 0420351030, 0420264021, 0420264053, 0420264054, and 0420351066) located at the southeastern corner of the intersection of Pioneer Way East and Shaw Road East within the City of Puyallup, Pierce County, Washington (Figure 1).

Effective May 24, 1999, the Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) was listed by the National Oceanographic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) as a "threatened species" pursuant to the Endangered Species Act (ESA). In addition, Puget Sound coho salmon (*Oncorhynchus kisutch*) was listed as a "species of concern" is 2004 and Puget Sound steelhead (*Oncorhynchus mykiss*) was listed as a "threatened species" in 2007. An additional salmonid species - native char/bull trout (*Salvelinus confluentus*) – was listed as a "threatened species" pursuant to the ESA by the U.S. Fish and Wildlife Service (USFWS) in 1998. Rearing and migratory juveniles, sub-adults, and adults of all of these listed salmonid species - as well as a variety of other salmonid species - are documented to occur within the Puyallup River Watershed.

SPECIES NAME SCIENTIFIC NAME	FEDERAL STATUS	STATE STATUS
Puget Sound Chinook salmon - *Oncorhynchus tshawytscha*	Threatened	Candidate Game
Puget Sound Steelhead - *Oncorhynchus mykiss*	Threatened	Game
Native char (bull trout) - *Salvelinus confluentus*	Threatened	Candidate Game
Coho salmon - *Oncorhynchus kisutch*	Concern	Game
Bald eagle - *Haliaeetus leucocephalus*	Concern	-

A number of species are listed pursuant to Essential Fish Habitat (EFH) program as defined within the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267). EFH means those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. Many of the species listed within the MSA are defined as "*Groundfish species*" or "*Coastal Pelagic Species*" and utilize the marine environments of Puget Sound. However, three listed species are also documented to occur within the Puyallup River Watershed.

Pacific Salmon Species

Chinook salmon *Oncorhynchus tshawytscha*	Coho salmon *Oncorhynchus kisutch*	Puget Sound pink salmon *Oncorhynchus gorbuscha*

Compliance with Section 7 the ESA requires all federal agencies to consult with the NMFS and the USFWS where any federally funded, federally authorized, or federally conducted action may affect a listed species or designated critical habitat. The purpose of a *Biological Evaluation* (BE) is to determine if a project, or authorized action, would have an effect on a listed species and if either informal or formal consultation is required.

Based on the assessment of the proposed potential related impacts for development of the East Town Crossing Residential Community the project team has concluded that this project would not affect Essential Fish Habitats. As such, formal consultation would not appear required the U.S. Fish and Wildlife Service and the National Marine Fisheries Service pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267).

2.0 - PURPOSE OF THE BIOLOGICAL EVALUATION PROGRAM

The overall purpose of the *Biological Evaluation* (BE) program is to provide a detailed analysis of the project related impacts and proposed species/critical habitat that are likely to be found in the project area. Based on this analysis the BE further provides an "effect determination" for the proposed action. The "effect determination" is composed of four primary elements (NMFS 1996, NMFS 1999) and is initially presented within a *Biological Evaluation* (BE) document.

- If the project has **"no effect"** on a listed species/critical habitat and the project is not a major construction activity, there is no requirement to consult with the NMFS. However, the "no effect" determination is only appropriate if the proposal would literally have no effect whatsoever. Actions which result in a "very, very small" effect or a "beneficial effect" do not qualify as a no effect determination.

- A determination of **"may affect, not likely to adversely affect"** is appropriate when the effects of the project on species or critical habitat are expected to be beneficial, discountable, or insignificant. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or critical habitats. Insignificant effects are defined by the size of the impact and should never reach the point where a "take" occurs. Discountable effects are those extremely unlikely to occur. Based on best professional judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects; or expect discountable effects to occur. A "take" includes to harass, harm, pursue, hunt, shoot, wound, trap, capture, collect, or attempt to engage is any such conduct. The USFWS further defines "harm" as a significant habitat modification or

degradation that results in death or injury to a listed species by significantly impairing behavioral patterns which include, but are not limited to breeding, feeding, or sheltering. "Take" applies to the individual organism such that actions that have more than a negligible potential to effect individual eggs or individual fish are "likely to adversely effect."

- A determination of **"may affect, likely to adversely affect"** is appropriate when any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions. When the overall effect of the proposed action is beneficial to the listed species or critical habitat, but is also likely to cause some adverse effects, the proposed action is "likely to adversely affect" the listed species or critical habitat. A "likely to adversely affect" determination requires formal consultation with the appropriate agencies.

- A determination of **"likely to jeopardize proposed species or adversely modify proposed critical habitat"** is appropriate when the proposed action is likely to jeopardize proposed species or adversely modify proposed critical habitat. With this determination a conference with the appropriate agencies is required.

With particular emphasis on anadromous salmonids a number of federal agencies have defined adverse effect to include " short or long-term, direct or indirect management-related impacts of an individual or cumulative nature such as mortality, reduced growth or other adverse physiological changes, harassment of fish, physical disturbance of redds, reduced reproductive success, delay or premature migration, or other adverse behavioral changes to listed anadromous salmonids or any life stage. Adverse effects to designated critical habitat include effects to any of the essential features of critical habitat that would diminish the value of the habitat for the survival and recovery of listed anadromous salmonids" (NMFS 1996).

3.0 - ESSENTIAL FISH HABITAT PROGRAM

The objective of the Essential Fish Habitat (EFH) consultation program is to determine whether or not a proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse impacts to EFH resulting from the proposed action. The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) requires the inclusion of EFH description in Federal fishery management plans. In addition, the MSA requires Federal agencies to consult with the National Marine Fisheries Service (NMFS) on activities that may adversely affect EFH.

EFH means those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purpose of interpreting the definition of essential fish habitat:

- **'waters'** include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate.

- **'substrate'** includes sediment, hard bottom, structures underlying the waters, and associated biological communities.

- **'necessary'** means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem.

- **'spawning, breeding, feeding, or growth to maturity'** covers a species' full life cycle.

The Pacific Fisheries Management Council (PFMC) has designated EFH for federally managed fisheries within the waters of Washington, Oregon, and California. The designated EFH for groundfish and coastal pelagic species encompasses all waters from the mean high water line, and upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon, and California, seaward to the boundary of the U.S. exclusive economic zone (PFMC 1998). In estuarine and marine areas, designated salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone offshore of Washington, Oregon, and California north of Point Conception to the Canadian border.

Detailed descriptions and identifications of EFH for the groundfish species are found in the *Final Environmental Assessment/Regulatory Impact Review* for Amendment 11 to *The Pacific Coast Groundfish Management Plan* (PFMC 1998) and *NMFS Essential Fish Habitat for West Coast Groundfish Appendix* (Casillas et al. 1998). Detailed descriptions and identifications of EFH for the coastal pelagic species are found in Amendment 8 to the *Coastal Pelagic Species Fisheries Management Plan* (PFMC 1998). Detailed descriptions and identifications of EFH for salmon and found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). The assessment of the impacts to these species' EFH from a proposed action is based on this information.

4.0 – PRIMARY CONSTITUENT ELEMENTS

Within the ESA listings the involved federal agencies have provided guidance on the statutory interpretation of the phrase "physical or biological features essential to the conservation of the species." These features include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction

and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species. The statutory interpretation further defines that the "focus on the principle biological or physical constituent elements that are essential to the conservation of the species."

The involved federal agencies further developed a list of "primary constituent elements" specific to listed salmonids relevant to determining whether occupied stream reaches within a watershed meet the ESA section (3)(5)(A) definition of "critical habitats." The primary constituent elements include the following:

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.
- Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and nature cover.
- Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover.
- Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between freshwater and saltwater; natural cover; and juvenile and adult forage.
- Nearshore marine areas free of obstruction with water quality and quantity conditions and forage; and natural cover.
- Offshore marine areas with water quality conditions and forage supporting growth and maturation.

5.0 – CITY OF PUYALLUP – FLOOD AREAS

The existing project site is located within an "A0 Flood Zone" as defined in the FEMA Flood Insurance Rate Mapping. Pursuant to City of Puyallup regulations an assessment shall be prepared in accordance with the Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013. The assessment shall determine if the project would adversely affect:

- The primary constituent elements identified when a species is listed as threatened or endangered;
- Essential fish habitat designated by the National Marine Fisheries Service;
- Fish and wildlife conservation areas;
- Vegetation communities and habitat structures;
- Water quality;
- Water quantity, including flood and low flow depths, volumes and velocities;
- The channel's natural planform pattern and migration processes;
- Spawning substrate, if applicable; and/or
- Floodplain refugia, if applicable.

6.0 – CITY OF PUYALLUP – ENVIRONMENTALLY CRITICAL AREAS

The City of Puyallup has adopted Title 21 – Chapter 21.06 to designate and classify environmentally critical areas and to protect these areas and their functions and values, while also allowing for economically beneficial or productive use of land on private property. The City has identified that that critical areas contain valuable natural resources, provide natural scenic qualities important to the character of the community, perform important ecological functions and processes, and/or present a hazard to life and property.

In particular, the City of Puyallup has determined that "wetlands" perform numerous important ecological functions, including, but not limited to, provision of wildlife and fish habitat, water quality enhancement, flood and erosion control, ground water recharge and discharge, shoreline stabilization, research and education opportunity, and recreation. In addition, the City of Puyallup has determined that "fish and wildlife habitat areas" such as rivers, streams, and other fish and wildlife habitats perform many important biological and physical functions that benefit the fish and wildlife species inhabiting the region. These functions include, but are not limited to providing cover, breeding/spawning habitat, and food for fish and wildlife species; maintaining water quality; storing and conveying storm and flood water; and recharging ground water.

7.0 - PROJECT DESCRIPTION

The project site was approximately 11-acres in size, irregular in shape, and been managed for agricultural production and residential land uses since the late 1800s. More recently the project site had undergone City of Puyallup permitted land use actions generally associated with conversion into the multi-family residential community. These prior permitted land use actions included the development of stormwater detention facilities, the removal of existing old homesites and outbuildings, clearing and grading, and the placement of imported fill materials to facilitate future proposed site development actions. The project site was located within a quickly, more intensely developing area along the Shaw Road and Pioneer Way Corridors generally changing from prior single-family homesites on moderately sized parcels into commercial developments to meet the growing needs of the City of Puyallup and adjacent local communities.

Directions to Project Site: From the City of Puyallup City Hall turn north onto 2nd Street SE and continue to East Pioneer. Turn east onto East Pioneer and continue generally easterly to Shaw Road East. The project site is located at the southeastern corner of the intersection of Pioneer Way East and Shaw Road East.

7.1 – ENVIRONMENTAL CRITICAL AERAS ASSESSMENT FINDINGS

The project site is located within the Lower Puyallup River Watershed. As defined by the recent environmental assessments completed for the project site, no wetlands, no streams/creeks, and no habitat conservation areas were identified within the project site. These assessments did identify a City of Puyallup Type IV Stream (non-fish bearing) offsite to the east and a City of Puyallup Type III Stream (fish bearing) within the Pioneer Way East right-of-way along the northern boundary of the project site (Figure 2). These offsite streams, as categorized following Washington State Department of Fish and Wildlife review, eventually entered Deer Creek offsite to the west via the managed ditch system associated within Pioneer Way East. Deer Creek is an eventual tributary to the Lower Puyallup River (see *WETLAND DELINEATION REPORT, EAST TOWN CROSSING* dated October 14, 2021, and *CRITICAL AREAS ASSESSMENT - Surface Water Drainages and Fish and Wildlife Habitat Conservation Areas - EAST TOWN CROSSING*, dated July 13, 2020, both prepared by Habitat Technologies).

7.2 – FISH AND WILDLIFE SPECIES AND HABITATS

The project site had undergone prior permitted land use actions generally associated with future proposed site development actions. These prior permitted land use actions included the development of stormwater detention facilities, the removal of existing old homesites and outbuildings, clearing and grading, and the placement of approved imported fill materials to facilitate future site development actions. Species observed onsite, species that would be expected to utilize the habitats provided by the project site, and species that may potentially utilize the habitats provided by the project site included American crow (*Corvus brachynchos*), American robin (*Turdus migratorius*), house sparrow (*Passer domesticus*), red tailed hawk (*Buteo jamaicensis*), starling (*Sturnus vulgaris*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), song sparrow (*Melospiza melodia*), purple finch (*Carpodacus purpureus*), common bushtit (*Psaltriparus minimus*), house finch (*Carpodacus mexicanus*), black capped chickadee (*Parus atricapillus*), American goldfinch (*Carduelis tristis*), tree swallow (*Tachycineta bicolor*), violet green swallow (*Tachycineta thallassina*), dark eyed junco (*Junco hyemalis*), Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), common mallard (*Anas platyrhynchos*), Canada geese (*Branta canadensis*), great blue heron (*Ardea herodias*), black tailed deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), eastern cottontail (*Sylvilagus floridanus*), stripped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), deer mouse (*Peromyscus maniculatus*), voles (*Microtus* spp.), moles (*Scapanus* spp.), Norway rat (*Rattus norvegicus*), shrew (*Sorex* spp.), bats (*Myotis* spp.), Pacific tree frog (*Hyla regilla*), and common garter snake (*Thamnophis sirtalis*).

An assessment of potential fish species utilization of the identified offsite streams adjacent to the eastern and northern boundaries of the project site completed during the spring of 2021 failed to identify direst fish utilization of the areas. This assessment did

identify a variety of aquatic invertebrates and several Pacific tree frogs, especially within the onsite storm pond facility. Offsite channel substrate was dominated by soft alluvial silts intertwined with grass and grass roots. No area within or adjacent to the project site exhibited suitable gravel for salmonid fish species.

7.2.a STATE PRIORITY SPECIES AND HABITATS

A few species identified by the State of Washington as "Priority Species" were observed onsite or potentially may utilize the project site and surrounding habitats. No areas were identified onsite that met the criteria for designation as a "Priority Habitat." Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance.

Game Species: "Game species" are regulated by the State of Washington through recreational hunting bag limits, harvest seasons, and harvest area restrictions. Game species observed to use the project site included black-tailed deer, common mallard, Canada goose, and mourning dove.

State Candidate: State Candidate species are presently under review by the State of Washington Department of Fish and Wildlife (WDFW) for possible listing as endangered, threatened, or sensitive. No State Candidate species were observed or have been documented to utilize the habitats provided within the project site.

State Sensitive: State Sensitive species are native to Washington and is vulnerable to declining and is likely to become endangered or threatened throughout a significant portion of its range without cooperative management or removal of threats. No State Sensitive species were observed or have been documented to utilize the habitats provided within the project site.

State Threatened: State Threatened species means any wildlife species native to the state of Washington that is likely to become an endangered species within the foreseeable future throughout a significant portion of its range within the state without cooperative management or removal of threats. No State Threatened species were observed or have been documented to utilize the habitats provided within the project site.

State Endangered: State endangered species means any species native to the state of Washington that is seriously threatened with extinction throughout all or a significant portion of its range within the state. No State Endangered species were observed or have been documented to utilize the habitats provided within the project site.

7.2.b FEDERALLY LISTED SPECIES

The project site did not provide and has not been documented to provide critical habitats for federally listed endangered, threatened, or sensitive species. A single, federally listed "species of concern" – bald eagle – has been documented to utilize the habitats associated with the Puyallup River Corridor and a variety of the larger streams and ponds within the general City of Puyallup area. As such, this species may occasionally overfly the area of the project site. However, the project site did not provide critical habitats for this species.

Deer Creek to the west of the project site has been documented to provide habitats for coho salmon (a federally listed species of concern) and steelhead trout (a federally listed threatened species). However, neither of the surface water drainages associated with the project site, nor the roadside ditch along Pioneer Way East – east of the intersection of this roadside ditch and Deer Creek - were observed and have not been documented to provide critical habitats for these species.

7.3 - PROPOSED SELECTED DEVELOPMENT ACTION

The *Selected Development Action* for the project site would create a new multi-family residential community consistent with the City of Puyallup Comprehensive Plan, local zoning, the City of Puyallup *Critical Areas Ordinance*, the City of Puyallup public roadway and health standards, and the City of Puyallup Stormwater Program. Assess to the new multi-family residential community would be provided via a new driveway connection to Pioneer Way East along the northern boundary of the project site and via a new driveway connection to Shaw Road along the western boundary of the project site. The northern connection to Pioneer Way East would require a crossing of the Type III Stream presently confined within a maintained ditch associated with the Pioneer Way East right-of-way. While the final crossing structure has not yet been fully designed the project team has been coordinating with the City of Puyallup to meet critical areas and public health/safety requirements and with the Washington Department of Fish and Wildlife to meet fish passage requirements to ensure that the final design would not adversely impact fish habitats or the movement of surface water.

The *Selected Development Action* would also establish and restore a protective buffer composed of native plant species associated with the Type III Stream along the southern side of the Pioneer Way East right-of-way adjacent to the project site and would establish and restore a protective stream and buffer corridor associated with the Type IV Stream to the east of the eastern boundary of the project site.

7.3.a – Development Impacts Avoidance

The *Selected Development Action* avoids direct and indirect adverse impacts to identified Waters of the U.S., Waters of the State, or critical habitats identified for federally or state listed species to the greatest extent practicable. In addition, the development of the new

multi-family residential community would include an onsite stormwater collection, detention, and treatment system to avoid potential project related impacts to local water quality and local water quantity within the receiving waters consistent with the provisions adopted by the City of Puyallup.

As noted above, a protective buffer associated with the Type III Stream within the Pioneer Way East right-of-way and the northern edge of the project site would be established and restored through the planting of a variety of desirable native plant species and the placement of habitat features consistent with the City of Puyallup Critical Areas Ordinance and guidance provided by the Washington Department of Fish and Wildlife. In addition, a protective stream and buffer corridor associated with the Type IV Stream along the eastern boundary of the project site would also be established and restored. These actions would be designed to provide enhanced habitats onsite and offsite; to provide enhanced habitat support downstream; to provide enhanced protections for local water quality; and to provide light, dust, and noise protections for adjacent habitats.

7.3.b – Site Development Preparation

The *Selected Development Action* focuses on the development of the project site into a multi-family residential community. The creation of this residential community would include a club-house, meeting areas, office space, walking paths, open vegetated areas, and other similar amenities for the residents. The design of this residential community would also include safe ingress and egress corridors, along with the appropriate collection, conveyance, and discharge of seasonal stormwater runoff.

Equipment to be used for initial clearing and site preparation, site leveling, the installation of utilities, and the creation of short-term and long-term stormwater facilities includes small to moderately sized excavators, graders, and dump trucks typical of the work being accomplished. All equipment would be properly maintained to ensure protection against spills of petroleum fluids. No heavy maintenance of equipment shall be conducted onsite. All activities shall be completed onsite and there will be no secondary offsite construction areas. Erosion and sedimentation controls to be implemented during construction include:

- Stabilization of the construction entrance/exit.
- The development and maintenance of perimeter runoff controls (as required).
- Retained and created cover practices of exposed soils (if required).
- Construction sequencing.

Erosion and sedimentation controls to be implemented after construction include:

- Stabilization of all exposed surfaces.
- Ensure proper operation of the stormwater collection and infiltration system (if required).

A new access would be created between the residential community and Pioneer Way East directly to the north. The creation of this new access would require the crossing of an identified City of Puyallup Type III Stream located within the managed ditch along the southern edge of the Pioneer Way East right-of-way. While the final crossing structure has not yet been fully designed the project team has been coordinating with the City of Puyallup to meet critical areas and public health/safety requirements and with the Washington Department of Fish and Wildlife to meet fish passage requirements to ensure that the final design would not adversely impact fish habitats or the movement of surface water. The final design would utilize a full-spanning culvert/arch and would not require any work waterward of the ordinary high water marks of the stream channel. Equipment to be used for culvert installation includes small to moderately sized excavators, graders, and dump trucks typical of the work being accomplished. All equipment would be properly maintained to ensure protection against spills of petroleum fluids. No heavy maintenance of equipment shall be conducted onsite. All activities shall be completed onsite and there will be no secondary offsite construction areas. Erosion and sedimentation controls to be implemented during culvert installation:

- Installation and maintenance of appropriate site fencing.
- Work during the low flow period.
- Soil stabilization and local water quality protection through Best Management Practices (jute matting, straw waddles, straw bales, seeding of exposed soils).

As noted above, the Type IV Stream and associated corridor located to the east of the project site would be restored and enhanced. While the final actions have not yet been fully designed the project team has been coordinating with the City of Puyallup to meet critical areas requirements and with the Washington Department of Fish and Wildlife to meet potential fish passage requirements to ensure that the final design would not adversely impact fish habitats or the movement of surface water. Equipment to be used for culvert installation includes small to moderately sized excavators, graders, and dump trucks typical of the work being accomplished. All equipment would be properly maintained to ensure protection against spills of petroleum fluids. No heavy maintenance of equipment shall be conducted onsite. All activities shall be completed onsite and there will be no secondary offsite construction areas. Erosion and sedimentation controls to be implemented during culvert installation:

- Installation and maintenance of appropriate site fencing.
- Work during the low flow period.
- Soil stabilization and local water quality protection through Best Management Practices (jute matting, straw waddles, straw bales, seeding of exposed soils).

7.3.c – Project Phases and Timing

Site development actions would start as soon as all appropriate permits and approvals are obtained. All roadway crossing construction actions, the creation of a protective buffer along the northern stream corridor, and the restoration/ enhancement of the stream corridor along the eastern project site boundary would be completed consistent with

Washington State Department of Fish and Wildlife guidance to ensure protection of local water quality and instream habitats.

8.0 – ACTION AREA

The **Action Area** includes those areas within 300 feet immediately adjacent to the project site (Figure 3). The Action Area is defined as those areas onsite that may be directly impacted by the proposed development, as well as those offsite areas that may be potentially impacted in some manner by the proposed onsite development. These potential impacts include such items as the potential disruption of migratory corridors, the modification of freshwater habitats, water quality, stormwater runoff, and flood elevations.

The project site had undergone somewhat recent permitted land use actions generally associated with future proposed site development actions. These prior permitted land use actions included the development of stormwater detention facilities, the removal of existing old homesites and outbuildings, clearing and grading, and the placement of imported fill materials to facilitate future proposed site development actions. The project site was located within a quickly, more intensely developing area along the Shaw Road and Pioneer Way Corridors generally changing from prior single-family homesites on moderately sized parcels into commercial developments to meet the growing needs of the City of Puyallup and other local communities.

Pioneer Way East was located along the northern boundary of the project site and Shaw Road formed the western boundary of the project site. A Puget Power substation was located to the east of the northeastern corner of the project site and a Northwest Pipeline Corridor crossed northeasterly near the southeastern corner of the project site. While the majority of the project site was surrounded by commercial/institutional developments an area offsite to the southeast had been retained as part of an identified wetland and forested hillslope.

Seasonal stormwater within the project site presently infiltrates, evaporates, enters a City of Puyallup stormwater system associated with Shaw Road, or enters a City of Puyallup managed ditch system associated with Pioneer Way East. Both the City of Puyallup stormwater system and the adjacent managed ditch system discharge into a City of Puyallup managed ditch along the northern side of Pioneer Way East directly to the west of the intersection of Pioneer Way East and Shaw Road. The City of Puyallup managed ditch along the northern side of Pioneer Way East lead generally westerly to combine with Deer Creek to the east of 25th Street SE well to the west of the project site. Prior fish utilization studies completed by the Puyallup Tribe have failed to identified fish presence within the managed ditch along the northern side of Pioneer Way East and east of 25th Street.

Deer Creek leads generally northwesterly via a series of managed and un-managed ditches to enter the Lower Puyallup River well offsite to the northwest of the project site.

Deer Creek to the west of the project site has been documented to provide habitats for coho salmon and steelhead trout. The Lower Puyallup River has been documented to provide habitats for a number of species of anadromous salmonids (genus *Oncorhynchus*). These species include Puget Sound steelhead trout, cutthroat trout, coho salmon, pink salmon, chum salmon, Puget Sound Chinook salmon, and native char.

9.0 - LISTED SPECIES AND CRITICAL HABITATS

As defined by the NMFS and the USFWS four federally listed salmonids are documented to occur within the Puyallup River System. The identified fish species and their federal ESA status are:

- Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) – threatened
- Puget Sound steelhead trout (*Oncorhynchus mykiss*) - threatened
- Bull trout - native char (*Salvelinus confluentus*) – threatened
- Coho salmon (*Oncorhynchus kisutch*) – species of concern

No federally of Washington State listed endangered or threatened species are documented to utilize the habitats provided within or immediately adjacent to the project site (WDFW 2008) and the project site is not documented to provide critical habitats for listed species. Bald eagle (*Haliaeetus leucocephalus*) a federal listed species of concern is documented to occur along the Lower Puyallup River Valley. However, as a result of onsite and adjacent urbanization the project site does not provide critical habitats for this, or any other, listed species.

9.1 - RELEVANT SPECIES

The Puyallup River System has been documented to support seven (7) salmonid fish species of the genus *Oncorhynchus*. Included within the Puyallup River System are distinct stocks of Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), chum salmon (*Oncorhynchus keta*), pink salmon (*Oncorhynchus gorbuscha*), sockeye salmon (*Oncorhynchus nerka*), rainbow/steelhead trout (*Oncorhynchus mykiss*), and cutthroat trout (*Oncorhynchus clarkii*) (WDOE 2008). A few other salmonid species of the genus *Salvelinus* (native char/bull trout – *Salvelinus confluentus* and *Prosopium* i.e. whitefish) are also present within these freshwater habitats. Anadromous and resident salmonids - both wild and hatchery stocks - support locally and regionally important commercial and recreational fisheries. Salmonids are also a significant factor in the cultural, religious, and economic base of Native American communities associated with Puget Sound.

9.2 – LIMITING FACTORS

Limiting factors are generally defined as those conditions with natural environments – either natural or man-induced - that lead to a complete loss or reduction in the ability of the natural environment to support identified species. Industrial and urban developments within the Puyallup River System are identified as the most significant factors affection the fishery resources of the watershed (Williams et al. 1976). Additional identified limiting factors include:

- **Stream Flow Patterns**. Seasonal flooding along the Puyallup River Watershed often shift streambed materials and destroy salmonid spawning areas. Additional elements include the modification of instream flow patterns through the once active diversion of the White River and the Puyallup River for hydroelectric production, the control of instream flows for flood protection, the diversion of surface water for domestic use, and limited late summer seasonal flow patterns within tributaries primarily within the lower watershed area. Limited flow within the lower watershed can reduce the ability of adults to migrate upstream into spawn areas, can reduce juvenile rearing areas, and can adversely impact water quality through elevated water temperatures and decrease the ability of the water to exhibit suitable dissolved oxygen levels.

- **Physical Barriers**. Physical barriers – both natural and man-induced – can isolate suitable habitats. For example, Mud Mountain Dam on the White River has modified the upstream and downstream migration of salmonids and other fish species into the upper reaches of the White River Watershed. Improperly placed roadway culverts and channelized stream channels are also identified to isolated suitable habitats. Natural barriers such as beaver dams and debris jams can also isolated suitable habitats especially during the low flow periods.

- **Water Quality**. Poor water quality conditions are well documented especially within the Lower Puyallup River Watershed and Commencement Bay. These conditions are a combination of permitted and non-permitted industrial and domestic waste discharges, non-point source pollution associated with seasonal stormwater runoff, adverse erosion, stream channelization, the removal/management of streamside vegetation, and water withdrawal.

- **Urbanization**. Much of the Puyallup River Watershed has been altered by a variety of prior and ongoing land use actions. These actions include – but are not limited to - forest harvest, land conversions for urban uses, surface water withdrawals, stream channelization and re-direction, stream flow diversion, changes in seasonal instream flow patterns, increased inputs of non-source pollution, industrial development, an increase in impervious surfaces, and the discharge of urban wastes. These actions can adversely impact suitable freshwater spawning habitats, can adversely impact suitable freshwater and

estuarine juvenile and sub-adult rearing habitats, and can adversely impact suitable migration corridors.

9.3 - LISTED SPECIES

9.3.a Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*)

The Puyallup River Watershed provides a wide diversity of habitats for Chinook salmon ranging from freshwater spawning and incubation areas to migratory routes and riverine/estuarine rearing areas. In general, Chinook salmon typically spawn within mainstem rivers and larger tributaries (Healey 1991). Within the Puyallup River Basin spawning has been documented within the Puyallup River, the Carbon River, the White River, Huckleberry Creek, the West Fork White River, the Greenwater River, the Clearwater River, Voight Creek, South Prairie Creek, and Kapowsin Creek (Puyallup Tribe unpublished). A very limited number of spawning Chinook salmon have been documented within Hylebos Creek, an independent tributary to Commencement Bay. Spawning observations within Hylebos Creek, however, coincided with prior Puyallup Tribal Hatchery outplanting programs (Puyallup Tribe unpublished).

Within the Puyallup River Basin Chinook salmon exhibit two basic variations (races) in life history. These variations (races) are identified as “spring” and “fall” and are centered primarily on upstream migration patterns and timing, freshwater rearing patterns of juveniles, and the choice of spawning areas exhibited by mature adults (Williams et al. 1975). The residency period and habitat utilization within the lower riverine/estuarine areas differs between these two races depending upon such factors as time of entry, size of the individual fish at time of entry, and the availability of habitats. In addition, out-migrating juvenile Chinook salmon also exhibit two generalized variations in timing, residency patterns, and riverine/estuarine habitat utilization (Puyallup Tribe unpublished).

Juvenile Chinook salmon that migrate into the estuarine/marine environment during their first year of life are identified as the 0+ age class and are generally identified by fork-length measurements. Healey (1991) noted these juveniles that typically migrate within a few days to a few months after emerging as fry from their freshwater incubation areas as the *“ocean-type”* life history. The residency period of individual 0+ age class Chinook salmon within the lower riverine and estuarine environments ranges from 6 to 189 days (Simenstad et al. 1982). Simenstad et al. (1982) and Healey (1982) found that juvenile Chinook salmon within the estuarine environments initially utilize the nearshore areas and move into deeper shoreline and openwater habitats once they reach a fork-length of approximately 65 to 75 mm.

Juvenile Chinook salmon that spend at least a full year rearing within the freshwater habitats prior to migrating into the estuarine/marine environment are considered the 1+ age class. Healey (1991) identified this 1+ age class as exhibiting the *“stream-type”* life history. Juvenile 1+ age class Chinook salmon typically migrate into the estuarine environments as yearling smolts and move directly into the neritic habitats (shallow

marine surface water zones) without extended utilization of salt marsh or other near shore habitats (Simenstad et al. 1982).

Spring Chinook salmon were historically abundant within the Puyallup River Basin and typically spawned in the upper tributaries of the White River and perhaps the upper tributaries of the Puyallup River and the Carbon River (Williams et al. 1975). While very depressed in total population size by the mid-1970's cooperative efforts between the Washington Department of Fish and Wildlife, the Muckleshoot Tribe, the Puyallup Tribe, federal agencies, and various local community groups have proven effective in reestablishing the population of spring Chinook salmon within the Puyallup River Basin Puyallup Tribe per.comm.).

Mature spring Chinook salmon enter the river system beginning in late March and continue through late July. Spawning typically occurs between late July and the first of October with the peak spawning activities occurring from late August through early September. Williams et al. (1975) noted that juvenile spring Chinook salmon within the Puyallup River Basin characteristically remain in the freshwater rearing areas for more than one year and migrate into the marine environment during the second year of life. Dunstan (1955) documented that juvenile spring Chinook salmon within the White River exhibit both "stream-type" and "ocean-type" components and that approximately 20 percent of the juvenile spring Chinook salmon within the White River spent one year in freshwater prior to outmigration into the marine environments. The Muckleshoot Tribe (1996) has documented that the majority of the juvenile spring Chinook salmon out-migrate from their freshwater rearing habitats during their first year of life at a body size typically larger than 75 mm. Thus the majority of juvenile spring Chinook salmon exhibit the "ocean-type" life history and would be expected to utilize the offshore marine habitats of Commencement Bay rather than the shallow, near shore habitats of Commencement Bay.

Fall Chinook salmon spawning occurs generally through the Puyallup River Basin, however, the areas utilized by fall Chinook salmon are typically lower in the watershed than spring Chinook salmon (Williams et al. 1975, Puyallup Tribe unpublished). Mature fall Chinook salmon enter the river system during late June through September. Peak spawning occurs during the last few days of September through the first few days of October (Puyallup Tribe unpublished).

Juvenile fall Chinook salmon within the Puyallup River Basin exhibit the "ocean-type" life history and typically migrate within a few days to a few months after emerging as fry from their freshwater incubation areas. Juvenile 0+ age class Chinook salmon are noted as the most dependent salmonid species on the availability of estuarine rearing habitat (Healey 1980).

Juvenile Chinook salmon are opportunistic feeders and are capable of exploiting a wide variety of prey organisms within the estuarine environments (Healey 1982). Levy and Northcote (1981) identified that the quality of estuarine residency (in terms of prey availability and prey abundance) was a determinant of subsequent marine survival.

Preferred prey organisms typically include adult and larval stages of copepods, amphipods, decapods, mysids, aquatic and terrestrial insects, and fish (Simenstad 1982).

Occurrence within the Action Area: The occurrence, habitat utilization, and timing of juvenile Chinook salmon within the Puyallup River Watershed and associated estuarine areas of Commencement Bay have been documented through a number of studies (Dames and Moore 1981, Duker et al. 1989, Miyamoto et al. 1980, Miyamoto et al. 1985, Jones & Stokes 1988, Puyallup Tribe unpublished).

Fall and spring stocks of Chinook salmon are documented within the Puyallup River Watershed and have been the focus of Washington Department of Fish and Wildlife, Puyallup Tribal, and Muckleshoot Tribal hatchery production and restoration programs. However, the Action Area does not provide critical habitat for this species. **As such, the Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species.**

9.3.b Native char - bull trout (*Salvelinus confluentus*)

Native char (bull trout - *Salvelinus confluentus* and Dolly Varden - *Salvelinus malma*) are adapted to cold water and they are typically associated with the coldest stream reaches within a watershed (Lee et al. 1997, USFWS 1998). Bull trout were distinguished from Dolly Varden and identified as a separate species in 1978 (Cavender 1978). However, genetic studies of these two species suggest that all Puget Sound native char are bull trout (Cavender 1999, McPhail and Baxter 1996).

Within the Puget Sound Basin native char exhibit two general life history forms (resident and migratory) with each form being dependent upon migratory barriers. The resident form is associated with cold, headwater streams typically above migrational barriers. The migratory form moves from the headwater spawning and early rearing areas into rearing areas located within lower riverine reaches (fluvial), into lakes and reservoirs (adfluvial), or into the estuarine and marine habitats (ocean or anadromous form) (USFWS 1998).

The anadromous form generally moves downstream into the lower riverine and estuarine areas in the early spring as 2+ and 3+ age class juveniles. Those individuals that select to migrate into the marine environment typically do so during May at a fork-length between 150 mm and 170 mm. The anadromous form generally does not venture further than 30 miles from the mouth of the river and would return as a sub-adult to the lower riverine and estuarine areas during the fall to over winter (Kraemer per. comm. 1995).

Within the freshwater environments native char are opportunistic feeders and feed on a variety of larval and adult insects, snails, leeches, amphibians, salmon eggs, and fish (Wydoski and Whitney 1979). Within the estuarine and marine environments anadromous native char continue to be opportunistic and feed primarily on surf smelt (*Hypomesus pretious*), Pacific herring (*Clupea harengus*), Pacific sand lance (*Ammodytes hexapterus*), juvenile salmon, and invertebrates.

Occurrence within the Action Area: A few juvenile native char - bull trout - have been identified within the upper reaches of the Puyallup River Basin (Puyallup Tribe unpublished). With the exception of a very few occurrences, studies undertaken within the Commencement Bay Area to define native char utilization and presence have failed to document significant number of this species (Dames and Moore 1981, Duker et al. 1989, Miyamoto et al. 1980, Miyamoto et al. 1985, Puyallup Tribe unpublished).

However, the Action Area does not provide critical habitat for this species. **As such, the Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species**.

9.3.c Puget Sound Steelhead (*Oncorhynchus mykiss*)

Naturally spawning and hatchery production of steelhead are present throughout the majority of freshwater systems associated with Puyallup River Watershed and other systems within Southern Puget Sound. Within the Puyallup River System juvenile steelhead typically migrate from their freshwater incubation and rearing areas into the estuarine environments as yearling smolts and move directly into the neritic habitats (shallow marine surface water zones) without extended utilization of salt marsh or other near shore habitats (Simenstad et al. 1982). Beach seine and wing-seine studies completed by the Puyallup Tribe have documented yearling smolt steelhead primarily within deeper water habitats and within open areas adjacent existing pier structures. These studies rarely captured yearling smolt steelhead within the intertidal habitats (Puyallup Tribe unpublished).

Occurrence within the Action Area: While steelhead have been identified within the Deer Creek System this species has not been identified to use the ditch system associated with Pioneer Way East to the east of its confluence with Deer Creek. In addition, the Action Area does not provide critical habitat for this species. **As such, the Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species.**

9.3.d Coho salmon (*Oncorhynchus kisutch*)

Naturally spawning and hatchery production of coho salmon are present throughout the majority of freshwater systems associated with the Puyallup River System and other systems within Southern Puget Sound. In addition, coho salmon have been the subject of several restoration programs and net-pen production operations. Within the Puyallup River System juvenile steelhead typically migrate from their freshwater incubation and rearing areas into the estuarine environments as yearling smolts and move directly into the neritic habitats (shallow marine surface water zones) without extended utilization of salt marsh or other near shore habitats (Puyallup Tribe unpublished). Beach seine and wing-seine studies completed by the Puyallup Tribe have documented yearling smolt coho salmon primarily within deeper water habitats and within open areas adjacent existing pier structures. These studies rarely captured yearling smolt coho salmon within the intertidal habitats (Puyallup Tribe unpublished).

Occurrence within the Action Area: While coho salmon have been identified within the Deer Creek System this species has not been identified to use the ditch system associated with Pioneer Way East to the east of its confluence with Deer Creek. In addition, the Action Area does not provide critical habitat for this species. **As such, the Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species.**

9.3.e Pink Salmon (Oncorhynchus gorbuscha)

Pink salmon are present within a number of systems associated with Puget Sound – to include the Puyallup River System. Spawning typically occurs from September through November. Eggs hatch the following spring and juveniles begin to move downstream into the estuarine/marine environments short after emergence from the gravel. All pink salmon return to spawn in their natal freshwater streams and rivers at two (2) years of age. Within the Puget Sound spawning pink salmon are only present on odd-numbered years. Productive freshwater spawning and rearing streams exhibit a good mixture of riffles and pools with overhanging vegetation. Pink salmon generally spawn in the lower reaches of larger coastal rivers and stream areas immediately adjacent to larger coastal rivers. Pink salmon eat insect larvae (aquatic and terrestrial), copepods, crustacean larvae, other aquatic and terrestrial invertebrates, and zooplankton (Groot et al. 1995).

Occurrence within the Action Area: The Action Area does not provide critical habitat for this species. **As such, the Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species**.

9.3.f Bald eagle (Haliaeetus leucocephalus)

In Western Washington bald eagles typically select large Douglas fir (*Pseudotsuga menziesii*) or Sitka spruce (*Picea sitchensis*) as nesting sites. The height of the nest above ground is typically 30 to 60 feet (Ehrlich et al. 1988). The following generally preference criteria are typically used to define existing or potential nest tree or roost tree habitat: clear lines of sight from the roost, a favorable microclimate, stout perches high off the ground, and freedom from human activity, (Stalmaster et al. In *Proceedings of the Washington Bald Eagle Symposium*, 1980).

Bald eagles are opportunistic feeders and prey on dead or dying salmon, small mammals, waterfowl, seabirds, and carrion (Ehrlich et al. 1988). Bald eagles along the shoreline of Puget Sound tend to feed on gulls (*Larus* spp.) and on a variety of carrion (Stephan Kalinowski, Habitat Biologist, WDFW, per.comm.). Bald eagles have been shown to be extremely sensitive to activities in their feeding areas and it is the morning hours which are the most crucial for human activities to be restricted as this is when the most intensive feeding occurs (Stalmaster 1980).

Occurrence within the Action Area: Both resident and winter migrant bald eagles are a common occurrence within the Puget Sound Region. Bald eagle nesting locations have been mapped along the Lower Puyallup River System, along the Clarks Creek Corridor, along the shoreline of Puget Sound, and associated with several larger lakes within Pierce County and South King County (WDFW 1998). These nesting sites and their associated nesting territories are not located within or in the immediate vicinity of the Action Area. **The Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species**.

9.3.g Steller sea lion (*Eumetopias jubatus*)

The Steller sea lion occurs in north temperate and boreal waters in the northern Pacific Ocean. They are opportunistic and feed on a wide range of fish species and other marine organisms. More recently, the number of Steller sea lions has increased within Puget Sound and this species become resident in many areas.

Occurrence within the Action Area: Steller sea lions are present within the marine waters of Commencement Bay and within the lower reaches of the Lower Puyallup River generally below the City of Puyallup. **The Action Area is not identified or documented as Designated Critical Habitats or associated Primary Constituent Elements for this listed species.**

10.0 - ANALYSIS OF PROJECT EFFECTS

The *Selected Development Action* for the project site would create a new multi-family residential community consistent with the City of Puyallup Comprehensive Plan, local zoning, the City of Puyallup *Critical Areas Ordinance*, the City of Puyallup public roadway and health standards, the City of Puyallup Stormwater Program, and Washington Department of Fish and Wildlife fish passage guidance. The project site was located within a well urbanized area of the City of Puyallup and was well served by public roadways and utilities. The purpose of this biological assessment is to identify the direct effects, the indirect effects, the interrelated effects, the interdependent effects, and the cumulative effective of the proposed project. These effects are defined using a set of pathways and indicators to examine the existing baseline conditions and the effects of the proposed project actions (NMFS 1996, USFWS 1998).

10.1 - SUMMARY OF EFFECTS

10.1.a Direct and Indirect Effects

The *Selected Development Action* would **not** require any adverse impacts to critical areas (i.e. wetlands, streams, critical habitats, or associated buffers) regulated by the City of Puyallup of the Washington Department of Fish and Wildlife. In addition, a stormwater system shall be created onsite to address the collection, detention, and treatment of

stormwater from the new onsite impervious surfaces consistent with the City of Puyallup stormwater management criteria.

The primary access into the proposed new multi-family residential community would require the installation of a full spanning culvert/arch to cross the identified Type III Stream located within the managed ditch along the southern edge of the Pioneer Way East right-of-way. This full spanning culvert/arch would meet the City of Puyallup critical areas and public health/safety requirements and with the Washington Department of Fish and Wildlife fish passage requirements to ensure that the new access would not adversely impact fish habitats or the movement of surface water. In addition, the onsite area to the south of the existing stream, in addition to the stream corridor itself, would be re-shaped to remove existing fill materials and to allow for seasonal hydrologic interaction between the stream and the adjacent created buffer. The stream corridor and adjacent buffer would also be planted with a variety of desirable native plant species and enhanced through the placement of habitat features.

Site development would also establish and restore a protective stream and buffer corridor associated with the Type IV Stream to the east of the eastern boundary of the project site. The existing stream is within a previously managed field ditch and the areas adjacent to this stream are dominated by very dense reed canarygrass. The existing channel would be re-configured to a meandering pattern and the adjacent buffer areas would be restored and enhanced through the planting of a variety of desirable native plant species and enhanced through the placement of habitat features.

The stream corridor and buffer enhancements and restoration actions to be completed as a part of the development of the multi-family residential community would provide important biological and physical functions that benefit the fish and wildlife species inhabiting the areas immediately adjacent to the project site, as well as fish and wildlife species within the Deer Creek System and the Lower Puyallup River.

The proposed project would not create any direct or indirect adverse impacts to listed species. However, the proposed actions would result in a positive benefit to listed species downstream within the Deer Creek System and the Lower Puyallup River.

This proposed project would **not** reasonably result in a “take” of listed species or critical habitats for listed species.

10.1.b Interrelated Effects

Following the development of the new multi-family residential community no further actions are presently proposed within the project site. Best management practices shall be implemented during and following development activities to ensure protection of local water quality and downstream aquatic habitats. No adverse interrelated effects have been identified.

10.1.c Interdependent Effects

The project site and immediately adjacent areas have been managed and modified for several decades. The proposed action would create a multi-family residential community within the project site. As such, the proposed development project would not cause a measurable adverse impact to existing habitats within or adjacent to the project site. However, as noted above the stream corridor and buffer enhancements and restoration actions to be completed as a part of the development of the multi-family residential community would provide important biological and physical functions that benefit the fish and wildlife species inhabiting the areas immediately adjacent to the project site, as well as fish and wildlife species within the Deer Creek System and the Lower Puyallup River.

In addition, onsite stormwater management, conveyance, detention, and treatment shall also be implemented and maintained to ensure protection of local water quality from new onsite impervious surfaces such that the selected development does not adversely impact water quality, water quantity, or water velocities within the eventual receiving waters.

10.1.d Cumulative Effects

The project site is located within an existing, well urbanized portion of the City of Puyallup. The proposed development would be expected to increase associated traffic, light, and noise within the project site, adjacent public roadways, and adjacent urbanized areas. However, this development would not be expected to adversely impact downstream water quality as a result of onsite stormwater facilities from new impervious surfaces, and would not be expected to adversely impact critical habitats within the Lower Puyallup River Watershed. As noted above, the actions to be implemented to restore and enhance the stream corridors to the north and east of the project site would be expected to increase the physical and biological functions of adjacent and downstream habitats.

11.0 - BIOLOGICAL EVALUATION CONCLUSIONS AND EFFECTS DETERMINATION

The completion of the *Selected Development Action* as presently proposed would **not** adversely impact onsite or immediately adjacent habitats, or adversely impact downstream water quality within the Lower Puyallup River Watershed. However, the actions to be implemented to restore and enhance the stream corridors to the north and east of the project site would be expected to increase the physical and biological functions of adjacent and downstream habitats. The overall project would also implement a protective stormwater management program and actions to address construction within a defined floodplain following Best Management Practices. **The *Selected Development Action* would not result in a "take" of listed species or associated critical habitats for listed species.**

SPECIES	STATUS IN ACTION AREA	PROJECT EFFECTS
Chinook salmon (*Oncorhynchus tshawytscha*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat for this species would not be impacted by this project.
Steelhead trout (*Oncorhynchus mykiss*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species. This species and habitats for this species are present downstream within Deer Creek.	**"may affect, not likely to adversely affect"** This species or critical habitat for this species would not be adversely impacted by this project. This project would provide positive, beneficial support for downstream critical habitats.
Coho salmon (*Oncorhynchus kisutch*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"may affect, not likely to adversely affect"** This species or critical habitat for this species would not be adversely impacted by this project. This project would provide positive, beneficial support for downstream critical habitats.
Native char Bull trout (*Salvelinus confluentus*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat would not be impacted by this project.
Bald eagle (*Haliaeetus leucocephalus*)	The Action Area is well urbanized and does not provide critical habitat or associated primary constituent for this species.	**"no effect"** This species or critical habitat would not be impacted by this project.

12.0 - ANALYSIS OF EFH EFFECTS AND CONSERVATION MEASURES

The completion of the *Selected Development Action* as presently proposed would **not** adversely affect **Essential Fish Habitats** within the adjacent Lower Puyallup River Watershed. As presently proposed the development actions shall be completed using

Best Management Practices to ensure protection of local water quality and water quantity. Because of the scope and location of the development actions along with the proposed environmental protections (seasonal stormwater conveyance, detention, and treatment; the use of BMPs/silt fencing during construction; the implementation of Washington Department of Fish and Wildlife fish passage guidelines; and proposed restoration/ enhancement actions) the proposed project is not expected to result in direct or indirect adverse impacts to listed EFH. As such, no additional specific conservation measures appear required.

13.0 - EFH EFFECTS DETERMINATION

Based on the assessment of the proposed project related impacts Habitat Technologies has concluded that this proposed project would have **no adverse affect on EFH**. As such, formal consultation does not appear required pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267).

SALMONID EFH EFFECTS	No Adverse Affects

14.0 – FLOODPLAIN HABITAT EFFECTS DETERMINATION

Pursuant to City of Puyallup, one of the primary motivations in the overall review of a proposed action is whether or not the proposed action would adversely affect floodplain habitats as outlined in the Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013. Primary elements of the overall project development include the creation of a stream corridor and buffer enhancements and restoration area associated with the identified adjacent Type III and Type IV Streams and the completion of a stormwater system that ensures compliance with the City of Puyallup stormwater provisions and the City of Puyallup floodplain requirements. The following table identifies that the proposed action would **not** adversely affect floodplain habitats.

FACTOR	EFFECTS DISCUSSION	EFFECTS DETERMINATION
The project's potential to impact the primary constituent elements for a listed species.	The proposed action would not adversely impact any of the primary constituent elements associated with defined critical habitats for listed species. These primary constituent elements include freshwater spawning areas, freshwater rearing areas, and freshwater migration corridors present within the Lower Puyallup River located to the north of the project site and estuarine areas, nearshore	No adverse effects.

	marine areas, and offshore marine areas located well downstream at the confluence of the Lower Puyallup River with Puget Sound. The proposed action would not alter existing freshwater habitats associated with the Lower Puyallup River and seasonal surface water from the proposed action would be captured and infiltrated onsite thus not adversely impacting water quality within the Lower Puyallup River.	
Essential fish habitat	As noted above the proposed action is not expected to result in direct or indirect adverse impacts to listed EFH.	No adverse effects.
Fish and wildlife conservation areas	The Lower Puyallup River identified offsite to the north and separated from the project site by existing urban developments is identified as a City of Puyallup Class I Stream (shoreline of the state). The Lower Puyallup River is also identified to provide habitats for salmonid species listed pursuant to the ESA and EFH. As noted above the proposed action would not alter existing riverine habitats associated with the Lower Puyallup River or Deer Creek.	No adverse effects.
Vegetation communities and habitat structures	The project site has been modified as a part of future site development actions. The proposed site development would not alter the vegetation along the banks of the Lower Puyallup River or Deer Creek well offsite.	No adverse effects.
Water quality	Seasonal surface water runoff from the proposed new multi-family residential community would be captured, conveyed, detained, and treated onsite prior to release. This action would not allow for the movement of potential pollutants from the newly developed areas into the City stormwater system or the adjacent stream corridor leading eventually into the Lower Puyallup River.	No adverse effects.
Water quantity, including flood and low flow depths, volumes and velocities	All seasonal surface water runoff from the proposed new multi-family residential community would be captured, conveyed, detained, and treated onsite prior to release. This action would not allow for the movement of seasonal surface water from the newly developed areas into the City stormwater system or the adjacent streams leading eventually into the Lower Puyallup River.	No adverse effects.

The channel's natural planform pattern and migration processes.	The project site is surrounded by existing residential and associated urban development. The proposed action would not adversely modify adjacent stream channels or potentially change existing migration processes.	No adverse effects.
Spawning substrate.	The project site is surrounded by existing urban development. The proposed action would not alter potential spawning substrates associated with the Lower Puyallup River or Deer Creek well offsite.	No adverse effects.
Floodplain refugia.	The project site is surrounded by existing urban development. The proposed action would not alter potential floodplain refugia associated with the Lower Puyallup River or Deer Creek well offsite.	No adverse effects.

15.0 – ENVIRONMENTAL CRITICAL AREAS EFFECTS

As outlined above, the project site was **not** identified to exhibit wetland or stream characteristics, and the project site did not provide critical habitats for federally or state listed species. A Type III Stream was identified offsite to the north along the Pioneer Way East right-of-way and a Type IV Stream was identified offsite to the east of the project site. As presently outlined, overall site development would restore and enhance both of these streams and their associated corridors. As such, the proposed development of this multi-family residential community would benefit both the housing opportunities within the City of Puyallup and the aquatic and terrestrial habitats associated with these two streams. As such, the development of a new multi-family residential community would **not** adversely affect any identified City of Puyallup environmentally critical areas.

16.0 – CONCLUSION

As outlined above the proposed *Site Development Action* has defined the following conclusions:

ASSESSMENT METHOD	CONCLUSION
Biological Evaluation consistent with the provisions of the Endangered Species Act	No adverse impacts to critical habitats onsite or within immediately adjacent habitats. No adverse impacts to critical habitats or downstream water quality within the Lower Puyallup River Watershed. The proposed actions would result in a positive benefit to listed species downstream within the Deer

	Creek System and the Lower Puyallup River.
Essential Fish Habitats assessment consistent with the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996.	No adverse impacts to essential fish habitats onsite or within immediately adjacent habitats associated with the Lower Puyallup River Watershed. The proposed actions would result in a positive benefit to listed species downstream within the Deer Creek System and the Lower Puyallup River
Floodplain habitats assessment consistent with the Regional Guidance for Floodplain Habitat Assessment and Mitigation, FEMA Region X, 2013	No adverse impacts to floodplain habitats onsite or within immediately adjacent habitats associated with the Lower Puyallup River Watershed. The proposed actions would result in a positive benefit to listed species downstream within the Deer Creek System and the Lower Puyallup River.
City of Puyallup Title 21 - Environment	No adverse impacts to environmentally critical habitats or priority species onsite or within immediately adjacent habitats associated with the Lower Puyallup River Watershed. The proposed actions would result in a positive benefit to listed species downstream within the Deer Creek System and the Lower Puyallup River

Thank you for allowing Habitat Technologies the opportunity to assist with your proposed project. Please contact us with any questions.

Sincerely,

Bryan W. Peck

Bryan W. Peck
Senior Wetland Biologist

Thomas D. Deming

Thomas D. Deming, SPWS
Habitat Technologies

17.0 - FIGURES

Figure 1 Site Vicinity

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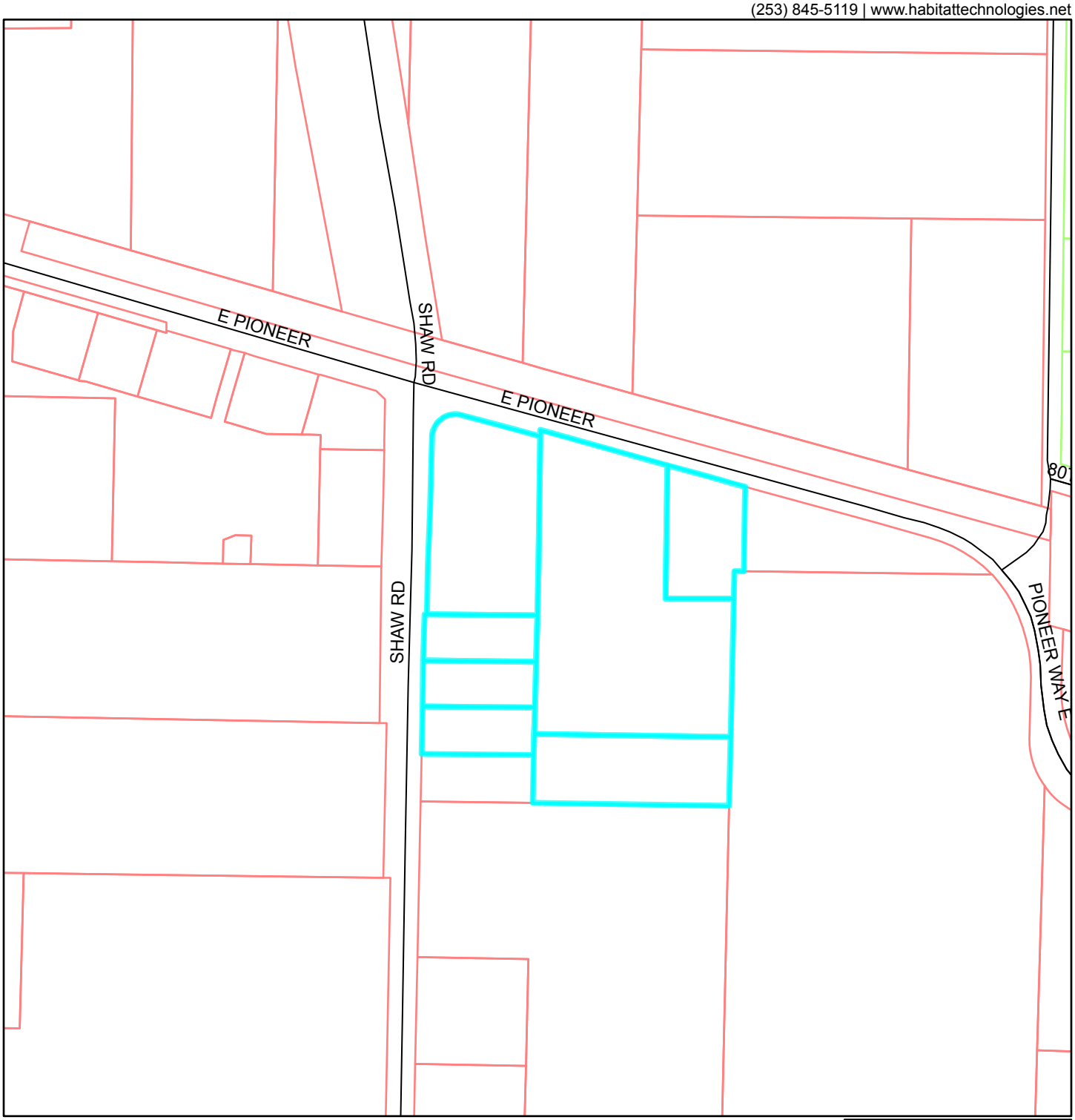
Puyallup, WA 98371
(253) 845-5119 | www.habitattechnologies.net



Legend

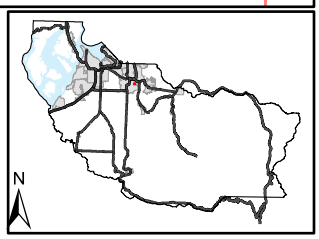
Roads

Condominium

Other

Tax Parcels

Base Parcel



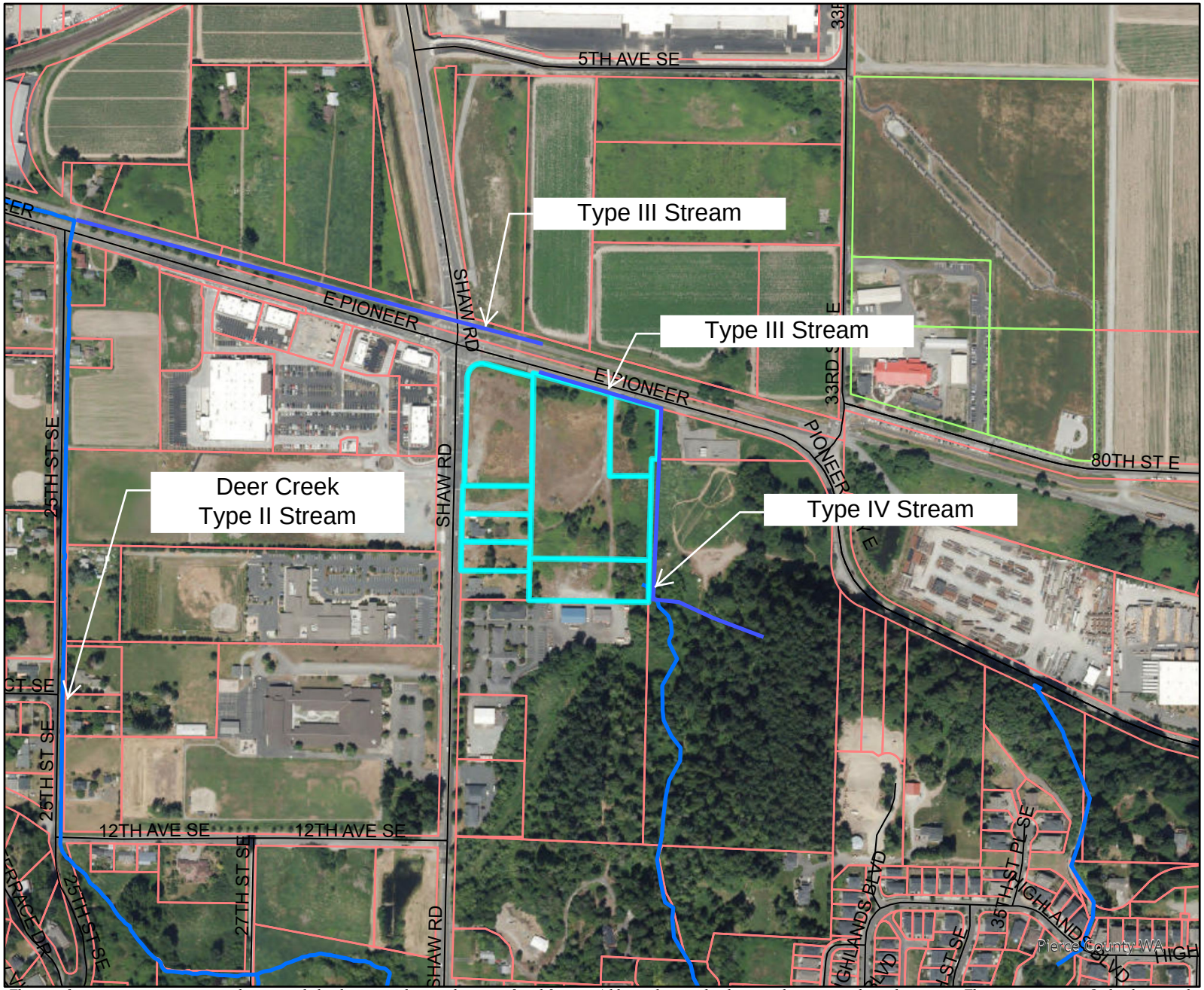
1:3,600

0 80 160 320
Feet

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Date: 6/7/2021 01:25 PM

Figure 2 Adjacent Streams



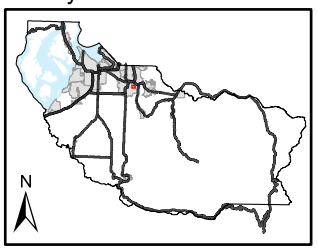
Legend

- Streams - Puyallup
- Roads

Tax Parcels

- Base Parcel
- Condominium
- Other

County - 2020 Ortho



0 120 240 480
Feet

1:6,000

Habitat Technologies
P.O.Box 1088
Puyallup, WA 98371
(253) 845-5119
www.habitattechnologies.net

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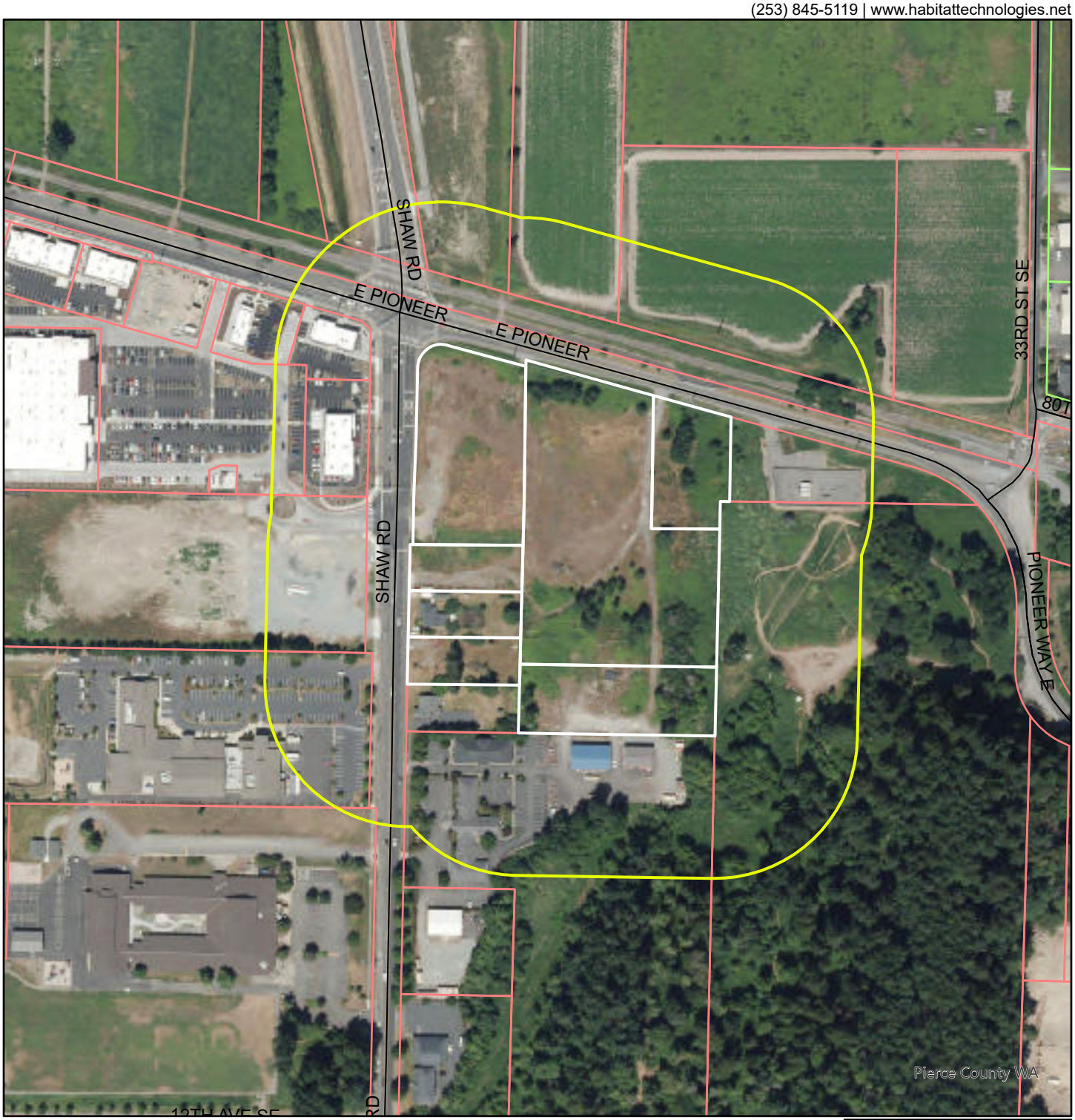
Date: 1/4/2022 09:47 AM

Figure 3 Action Area

Habitat Technologies
P.O.Box 1088
Puyallup, WA 98371
(253) 845-5119 | www.habitattechnologies.net



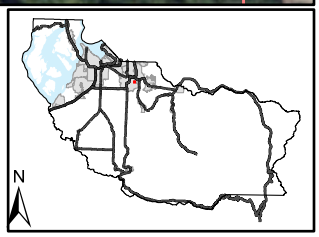
Legend

- Action Area
- Project Site
- Roads
- County - 2020 Ortho

Tax Parcels

- Base Parcel
- Condominium

- Other



0 80 160 320 Feet

1:3,600

The map features are approximate and are intended only to provide an indication of said feature. Additional areas that have not been mapped may be present. This is not a survey. Orthophotos and other data may not align. The County assumes no liability for variations ascertained by actual survey. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. The County makes no warranty of fitness for a particular purpose.

Date: 11/1/2021 01:53 PM

18.0 - REFERENCE AND BACKGROUND LIST

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19.0 - ATTACHMENT – Site Plan

TYPICAL AT EACH APARTMENT BUILDING
A stand of trees with a canopy of 1,000 square feet (as measured in frontal view rather than top view) located no farther than 20 feet from a facade of the building, consisting of either existing trees, or planted trees. (Per PMC 20.26.200 (4) (b) (v))

LOT 2
50,886 sq ft

LOT 1
28,824 sq ft

LOT 3
361,499 sq ft

BLD'G H (TYPE 3) 3-STORY 24-UNIT 1 BEDRMS

BLD'G G (TYPE 3) 3-STORY 24-UNIT 1 BEDRMS

BLD'G D (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G C (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G B (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G E (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G F (TYPE 2) 3-STORY / 24-UNIT (12) - 2 BEDRMS (12) - 1 BEDRMS

BLD'G A (TYPE 3) 3-STORY 24-UNIT 1 BEDRMS

CLUB HOUSE
L1: AMENITY & LEASING 2,909 sq ft
L2: MNGR UNIT (1) BEDRM 956 sq ft

BUFFER MITIGATION AREA
44,970 sq ft

BUFFER MITIGATION AREA
12,120 sq ft

BIOSWALE
4,026 sq ft

1 SITE PLAN
SCALE: 1" = 40'

S9
SYNTHESIS 9, LLC
523 N. D ST.
TACOMA, WA 98403

REGISTERED ARCHITECT
9251
BRIAN LOCKWOOD
STATE OF WASHINGTON

EAST TOWN CROSSING
MULTIFAMILY DEVELOPMENT
PIONEER & SHAW PUYALLUP

DESIGN REVIEW - REVISION No.1 | 2021.21.12

REVISIONS

REVISIONS

DRAWN BY:	BL / CM
CHECKED BY:	BL
DATE:	2021.21.12
TITLE:	OVERALL SITE PLAN
PROJECT # :	2016
SHEET:	

TYPICAL AT EACH APARTMENT BUILDING
A stand of trees with a canopy of 1,000 square feet (as measured in frontal view rather than top view) located no farther than 20 feet from a facade of the building, consisting of either existing trees, or planted trees.
(Per PMC 20.26.200 (4) (b) (v))

LOT 2
50,886 sq ft

LOT 1
28,824 sq ft

LOT 3
361,499 sq ft

BLD'G H (TYPE 3) 3-STORY 24-UNIT 1 BEDRMS

BLD'G G (TYPE 3) 3-STORY 24-UNIT 1 BEDRMS

BLD'G D (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G C (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G B (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G E (TYPE 1) 3-STORY / 24 UNIT 24 - (2) BEDRMS

BLD'G F (TYPE 2) 3-STORY / 24-UNIT (12) - 2 BEDRMS (12) - 1 BEDRMS

BLD'G A (TYPE 3) 3-STORY 24-UNIT 1 BEDRMS

CLUB HOUSE
L1: AMENITY & LEASING 2,909 sq ft
L2: MNGR UNIT (2) BEDRM 958 sq ft
POOL 930 sq ft
HOT TUB 126 sq ft

PLAZA 531 sq ft
1,415 sq ft
6,700 sq ft
5,285 sq ft
PLAZA 1,137 sq ft
3,502 sq ft
BIOSWALE 4,026 sq ft
PLAY AREA 2,708 sq ft
SOLAR CARPORTS
TRASH & RECYCLE 276 sq ft
TRASH & RECYCLE 250 sq ft
COVERED MAILBOXES, BUS STOP & RECYCLE 2,746 sq ft (108 PANELS)
SPORT COURT (30 x 46) 1,440 sq ft
TRASH & RECYCLE 550 sq ft
RECYCLE 246 sq ft
DOG AREA (FENCED) 1,196 sq ft
COURT G-H2 4,720 sq ft
COURT G-H1 4,289 sq ft
COURT D1 792 sq ft
COURT D2 700 sq ft
COURT D3 700 sq ft
COURT D4 638 sq ft
COURT D5 1,617 sq ft
COURT B-C-E-F1 8,680 sq ft
COURT B-C-E-F2 9,396 sq ft
COURT A-1 1,857 sq ft
COURT A-2 1,459 sq ft

CARPORT #16 (70 PANELS)
CARPORT #15 (70 PANELS)
CARPORT #14 (70 PANELS)
CARPORT #12 (70 PANELS)
CARPORT #13 (70 PANELS)
CARPORT #1 (70 PANELS)
CARPORT #2 (70 PANELS)
CARPORT #3 (70 PANELS)
CARPORT #5 (70 PANELS)
CARPORT #4 (70 PANELS)
CARPORT #7 (70 PANELS)
CARPORT #8 (70 PANELS)
CARPORT #9 (70 PANELS)
CARPORT #10 (70 PANELS)
CARPORT #11 (70 PANELS)

ORNAMENTAL 5-FT (MAX.) FENCE
2.0' CONC. SHOULDER (PER CITY OF PUYALLUP)
4.5' CONC. SHOULDER (PER CITY OF PUYALLUP)
BUFFER (ENHANCED)
10-ft WIDE SHARED USE PATH
10'-0" LANDSCAPE BUFFER (ENHANCED)
CHAINLINK 6-FT FENCE
ORNAMENTAL 6-FT FENCE
EXERCISE EQUIP.; TYP.
PICNIC TABLE; TYP.
BENCH; TYP.
SCULPTURE; TYP.
ACCESS EASEMENT
BIKE PARKING
HYDRANT W/ FDC
P.I.V.
BENCH
MONUMENT SIGN (SEPARATE SUBMITTAL)
PROPERTY LINE
28'-0" BUFFER
(EX) STORM DISCHARGE PIPE
WILLIAMS GAS PIPELINE
BUFFER MITIGATION AREA

1 SITE PLAN
SCALE: 1" = 30'

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523 N. D ST.
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REGISTERED ARCHITECT
9251
BRETT M. WINDHAM
STATE OF WASHINGTON

EAST TOWN CROSSING
MULTIFAMILY DEVELOPMENT
PIONEER & SHAW PUYALLUP

DESIGN REVIEW - REVISION No.1 | 2021.21.12

REVISIONS	
REVISIONS	
DRAWN BY:	BL / CM
CHECKED BY:	BL
DATE:	2021.21.12
TITLE:	SITE PLAN
PROJECT # :	2016
SHEET:	